BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Biomedical Science Pearson BTEC International Level 3 Diploma in Environmental Science Pearson BTEC International Level 3 Extended Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Environmental Science
Unit number and title	**Unit 25: Water Quality**
Learning aim(s)	**D:** Understand the principles of water treatment and conservation
Assignment title	**Water treatment and conservation**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You are a laboratory technician working in an analytical laboratory for a local water supply company and in this role you have learnt how to treat water so that it is of a standard for drinking, other domestic uses and for use in industry. You understand that this is also important for the control of many diseases which are spread through contaminated water. Many countries and local authorities have treatment standards for water regarding bacteria, chemicals, appearance and taste. You have to be up to date with the standards for the treatment and disposal of sewage. We live in a world where population growth is causing concern in terms of the amount of suitable water available for human activities and consumption. As a technician employed by a local water supply company, you are involved in investigating how to treat and conserve of water and look at ways of controlling the consumption of water both in industry and for domestic uses. Because of this your department regularly receives visits from schools, and your supervisor has allocated you the task of testing out an assessment that will be used by the 'BTEC students' undertaking work experience in your laboratory.

Task	You will need to **explain** the different methods for the treatment of water and sewage, **discuss** methods of water conservation and control of water consumption and **evaluate** the use of different water treatment and conservation methods. For your final report you will: • **Discuss** methods of water conservation and control of water consumption. Research a range of methods relevant on an individual level and on a large commercial scale and discuss the significant each would be in terms of conservation or controlling the consumption of water.

	• **Explain** different methods for the treatment of water and sewage. Use scientific principles and your own annotated diagrams to explain each stage of a process (Sourced images are **not** acceptable evidence). • **Evaluate** the use of different water treatment and conservation methods for different purposes. Consider the scale and location (for example a coastal community where the main source of potable water is from the sea) of the water available to enable you to evaluate the methods used to meet different purposes. Take into account the advantages and disadvantages such as cost-effectiveness, abundance of resources and energy requirements.
Checklist of evidence required	A report that includes: • An explanation of different methods for the treatment of water and sewage • A discussion of methods of water conservation and control of water consumption • An evaluation of the use of different water treatment and conservation methods.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria, you must show that you are able to:
D.D4	Evaluate the use of water treatment and conservation methods to meet different purposes.
D.M6	Discuss methods to conserve and control consumption of water.
D.P8	Explain different methods of water and sewage treatment.
Sources of information to support you with this Assignment	All sources of information suggested are UK based. Centres are free to amend these sources to those available in the Country of delivery where more appropriate. www.edu.rsc.org.uk – TiO2 Water treatment; The treatment of oil spills; Precious water; Water!Water! www.STEM.org.uk - Conservation; Pure water; Water treatment; Water treatment in London www.watertreatmentservices.co.uk – Information about water testing www.nationalgeographic.org – various - Water treatment for human consumption

	Within the copyright laws learners could search YouTube for:– – The water treatment process; How do water treatment plants work; The sewage treatment process; Water conservation tips; Water conservation techniques
Notes to the Assessor and technician	The practical activities suggested for this assignment are required to be safety checked by the Centre before use. Pearson Education can take no responsibility for the safety of any practical activities. Before doing any practical activity, you should always carry out your own risk assessment and refer to the necessary regulations. In particular, any local rules issued by your employer must be obeyed, regardless of what is suggested here. Centre should use Health and Safety information provided by a reputable source. In the UK such an example organization is CLEAPSS http://science.cleapss.org.uk/